



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Nordine CHEIKH *et al.*

Appln. No.: 09/300,482

Filed: April 28, 1999

For: Nucleic Acid Molecules and Other Molecules Associated with the
Phosphogluconate Pathway

Confirmation No.: 4511

Art Unit: 1631

Examiner: Marjorie A. Moran

Atty. Docket: 16517.216

DECLARATION UNDER 37 C.F.R. § 1.132

Assistant Commissioner for Patents
Washington, DC 20231

BEST AVAILABLE COPY

Sir:


I, **Nancy Vosnidou, Ph.D.**, make the following declaration related to matters that are within my personal knowledge:

1. I am employed as a Patent Scientist at the Monsanto Company, which wholly owns Monsanto Technology LLC, the assignee of the above referenced patent application.
2. I have reviewed the above-captioned application, which was filed April 28, 1999 and assigned Serial No. 09/300,482 (hereinafter the "'482 application"). The '482 application discloses 699 expressed sequence tag sequences (ESTs) derived from corn and soybean having homology to known phosphogluconate pathway enzymes. SEQ ID NO: 1, is identified in the specification as having homology to glucose-6-phosphate-1-dehydrogenase.
3. I hereby certify that I conducted a computer search of an identical copy of the nucleotide database posted by the National Center for Biotechnology Information (NCBI) contained on a

Monsanto local server, on March 30, 2006. The computer search was conducted using a BLASTN query of SEQ ID NO: 1 using the default parameters. The search was further conducted without identifying open reading frames (ORFs) within the sequence prior to the search.

4. I hereby certify that a copy of an alignment between SEQ ID NO: 1 and the top matches resulting from the computer search is attached hereto as appendix A. The alignment shows that SEQ ID NO: 1 has 95% identity to GenBank Accession No. 60672339. This GenBank accession is identified as similar to glucose-6-phosphate dehydrogenase.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Nancy Vosnidou, Ph.D.

Executed on 24 April, 2006.



<HR>
<PRE>
BLASTN 2.2.9 [May-01-2004]
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Reference: Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schaffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

Query= 15365_SEQID1
(233 letters)

Database: Predefined collection GenBankCDNA: -source
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38,492,695 sequences; 23,466,767,293 total letters

Searching.....done

Sequences producing significant alignments:	Score (bits)	E Value
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67021768 description="MZCCL10150C04.g Maize Endosperm cDNA Libra... 110	406	e-
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33100725 description="QCT12e05.yg QCT Zea mays cDNA clone QCT12e... 110	406	e-
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 Identities = 226/233 (96%)
 Strand = Plus / Plus

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Query: 121 cagattattttatttggcattgcctccatcagtcctacccatcagtagcgagatgataag 180
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Strand = Plus / Plus

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Score = 406 bits (205), Expect = e-110
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Strand = Plus / Plus

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Query: 181 atcatattgcatgagtcctcatcttcacacaccggttgacaagggttattgttg 233
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Query: 61 attgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccg 120
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Query: 181 atcatattgcatgagtccatcttcacacaccgggttgacaaggggtattgttg 233
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source="genbank_est" version=NA type=cDNA
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Identities = 226/233 (96%)
Strand = Plus / Minus

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Query: 181 atcatattgcatgagtcctcttcacacaccggttgacaagggttattgttg 233
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Score = 406 bits (205), Expect = e-110
Identities = 226/233 (96%)
Strand = Plus / Plus

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Sbjct: 500 gtttttgcagttagtagaaatatgtagtggtcctatgatagggtggaaggatttgagtt 559

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Score = 371 bits (187), Expect = e-100
Identities = 220/231 (95%)
Strand = Plus / Plus

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Sbjct: 111 ttttgcagctagtaaaatatggttagtggtcctatgataggggggaaggatttgagttat 170

Query: 63 tgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccgca 122
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source="genbank_est" version=NA type=cDNA
Length = 879

Score = 367 bits (185), Expect = 1e-98
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Strand = Plus / Plus

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Query: 61 attgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcgggaagctaccg 120
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Query: 121 cagattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180
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☒ > 45955391 Sequence Details NCBI description="RHOH1_29_G02.g1_A002 Acid- and alkaline-treated roots Sorghum bicolor cDNA clone RHOH1_29_G02_A002 5'." library=NA species="Sorghum bicolor" source="genbank_est" version=NA type=cDNA Length = 848

Score = 317 bits (160), Expect = 1e-83
Identities = 214/232 (92%)
Strand = Plus / Plus

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☒ > 57821683 Sequence Details NCBI description="GABR1_66_C09.g1_A002 GA- or brassinolide-treated seedlings Sorghum bicolor cDNA clone GABR1_66_C09_A002 5'." library=NA species="Sorghum bicolor" source="genbank_est" version=NA type=cDNA Length = 774

Score = 315 bits (159), Expect = 4e-83
Identities = 213/231 (92%)
Strand = Plus / Plus

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Query: 122 agattattttatttggcattgcctccatcagtcacccatcagtatgcgagatgataaga 181

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Sbjct: 179 agattattttatttggcattgcctccatcagtcctacccatcagtatgcaaatgataaga 238
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☒ [60672339](sequenceViewer?seqID=60672339&source=genbank_est) [...](.../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq_id%2Fid_val)

ue%3D%2760672339%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xsl">Sequence Details NCBI description="EST5840 Zea mays embryo sac cDNA library Zea mays cDNA clone ES12956 5' similar to glucose-6-phosphate dehydrogenase." library=NA species="Zea mays" source="genbank_est" version=NA type=cDNA Length = 621

Score = 309 bits (156), Expect = 3e-81
Identities = 180/188 (95%)
Strand = Plus / Plus

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Query: 226 tattgttg 233
|||||
Sbjct: 185 tattgttg 192

<input type=checkbox name="seqID" value="62550618:genbank_est:" checked>>62550618 NCBI description="EST7250 Zea mays embryo sac cDNA library Zea mays cDNA clone ES14608 5' similar to glucose-6-phosphate dehydrogenase." library=NA species="Zea mays" source="genbank_est" version=NA type=cDNA Length = 624

Score = 309 bits (156), Expect = 3e-81
Identities = 180/188 (95%)
Strand = Plus / Plus

Query: 46 ggaaggatttgagttattgaatgaggcaatctctgagtatgagacttcagaaaacaatga 105
|||||
Sbjct: 5 ggaaggatttgagttattaaataaggcaatctctgagtatgaaacttcaaaaaacaatga 64

Query: 106 ctcgggaagctaccgcagattatattttatttggcattgcctccatcagctctacccatcagt 165
 |||||
 Sbjct: 65 ctcgggaagctaccacagattatattttatttggcattgcctccatcagctctacccatcagt 124

Query: 166 atgcgagatgataagatcatattgcatgagtcctcttcacacaccgggttgacaaggggt 225
 |||||
 Sbjct: 125 atgcaaatgataagatcatattgcatgagtcctcttcacacactgggttgacaaggggt 184

Query: 226 tattgttg 233
 |||||
 Sbjct: 185 tattgttg 192

<input type=checkbox name="seqID" value="35138042:genbank_est:" checked>>35138042 Sequence Details NCBI description="SCCST3C01H12.g ST3 Saccharum officinarum cDNA clone SCCST3C01H12 5'." library=NA species="Saccharum officinarum" source="genbank_est" version=NA type=cDNA Length = 689

Score = 303 bits (153), Expect = 2e-79
 Identities = 210/229 (91%)
 Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggctcctatgatagggtggaaggatttgagtta 61
 |||||
 Sbjct: 405 tttttgcagctagttaaatatgttagtggctcctatgatagggtggaaggatttgagttg 464

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaaacaatgactcggaagctaccgc 121
 |||||
 Sbjct: 465 ttaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctatcgc 524

Query: 122 agattatattttatttggcattgcctccatcagctctacccatcagtatgcgagatgataaga 181
 |||||
 Sbjct: 525 agattatattttatttggcattgcctccatcagctctacccatcagtatgcaaatgataaga 584

Query: 182 tcattattgcatgagtcctcttcacacaccgggttgacaaggggttattg 230
 |||||
 Sbjct: 585 tcgtattgcatgaatccatcttcacacaccgggttgacaaggggttattg 633

<input type=checkbox name="seqID" value="57813598:genbank_est:" checked>>57813598 <a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq_id%2Fid_val ue%3D%2757813598%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs

1">Sequence Details NCBI description="GABR1_16_C06.g1_A002 GA- or brassinolide-treated seedlings Sorghum bicolor cDNA clone GABR1_16_C06_A002 5'." library=NA species="Sorghum bicolor" source="genbank_est" version=NA type=cDNA Length = 786

Score = 301 bits (152), Expect = 7e-79
Identities = 212/232 (91%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgtagtggctcctatgatagggtggaaggatttgagtta 61
||||||| ||| ||||||||| ||||||||| ||||||||| ||||||||| ||
Sbjct: 545 tttttgcagctagttaaatatgtagtggctcctatgatagggtggaaggatttgagtta 604

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121
|| || ||||||||| ||||||| || ||| || ||||||| || ||||||| ||
Sbjct: 605 ttaacaaggcaatctccgagtatgaaacatcaagaacaatgaatcaggaagctatcgc 664

Query: 122 agattattttatttggcattgcctccatcagtctacccatcagtatgcgagatgataaga 181
||||||||| ||||||||| ||||||||| ||||||||| ||||||||| ||
Sbjct: 665 agattattttatttggcattgcctccatcagtctacccatcagtatgcaaatgataaga 724

Query: 182 tcatattgcatgagtcctcttcacacaccgggttgacaagggttattgttg 233
|| ||||||||| ||||||||| ||||||||| ||||||||| ||||||||| ||
Sbjct: 725 tcgtattgcatgaatccatcttcacacaccgggttgacaagggttattgttg 776

<input type=checkbox name="seqID" value="34949289:genbank_est:" checked>>34949289 NCBI description="SCACCL6008B07.g CL6 Saccharum officinarum cDNA clone SCACCL6008B07 5'." library=NA species="Saccharum officinarum" source="genbank_est" version=NA type=cDNA Length = 698

Score = 293 bits (148), Expect = 2e-76
Identities = 211/232 (90%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgtagtggctcctatgatagggtggaaggatttgagtta 61
||||||| ||| ||||||||| ||||||||| ||||||||| ||||||||| ||
Sbjct: 243 tttttgcagctagttaaatatgtagtggctcctatgatagggtggaaggatttgagtca 302

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121
|| || ||||||||| ||||||| || ||| || ||||||| || ||||||| ||

Sbjct: 303 ttaaacaaggcaatctctgagtgatgaaacatcaaaaaacaatgaatcaagaagctatcgc 362

Query: 122 agattatTTTTatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181
|||||

Sbjct: 363 agattatTTTTatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataaga 422

Query: 182 tcatattgcatgagtcctcctcacacaccgggtggacaagggttattgttg 233
||

Sbjct: 423 tcgtattgcatgaatccatcttcacacaccgggtggacaagggttattgttg 474

<input type=checkbox name="seqID" value="45981870:genbank_est:" checked>>45981870 Sequence Details NCBI description="WOUND1_18_A03.g1_A002 Wounded leaves Sorghum bicolor cDNA clone WOUND1_18_A03_A002 5'." library=NA species="Sorghum bicolor" source="genbank_est" version=NA type=cDNA Length = 728

Score = 287 bits (145), Expect = 1e-74
Identities = 212/233 (90%), Gaps = 1/233 (0%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggctcctatgatagggtggaaggatttgagtta 61
|||||

Sbjct: 496 tttttgcagctagttaaatatgttagtggctcctatgatagggtggaaggatttgagtta 555

Query: 62 ttgaatgaggcaatctctgagtgatgagacttcagaaaa-caatgactcgggaagctaccg 120
||

Sbjct: 556 ttaaacaaggcaatctctgagtgatgaaacatcaaaaaacaatgaatcaggaagctatcg 615

Query: 121 cagattatTTTTatttggcattgcctccatcagtcctacccatcagtatgcgagatgataag 180
|||||

Sbjct: 616 cagatgattttatttggcattgcctccgctcagtcctacccatcagtatgcaaaatgataag 675

Query: 181 atcatattgcatgagtcctcctcacacaccgggtggacaagggttattgttg 233
|||

Sbjct: 676 atcgtattgcatgaatccatcttcacacaccgggtggacaagggttattgttg 728

<input type=checkbox name="seqID" value="45997222:genbank_est:" checked>>45997222 Sequence Details NCBI description="WOUND1_84_F10.g1_A002 Wounded leaves Sorghum

bicolor cDNA clone WOUND1_84_F10_A002 5'." library=NA
species="Sorghum bicolor" source="genbank_est"
version=NA type=cDNA
Length = 759

Score = 270 bits (136), Expect = 2e-69
Identities = 196/216 (90%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaataatgttagtggctcctatgataggggtggaaggatttgagtta 61
||||||| ||| ||||||||| ||||||||| ||||||||| ||||||||| ||
Sbjct: 544 tttttgcagctagttaaatatgttagtggctcctatgatagtggggaaggatttgagtta 603

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121
|| || ||||||||| ||||||||| || || ||||||||| || ||||||||| ||
Sbjct: 604 ttaaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcacgaagctatcgc 663

Query: 122 agattattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181
||||||| ||||||||| ||||||||| ||||||||| ||||||||| || || |||||||
Sbjct: 664 agattattttatttggcattgcctccatcagtcctacccatcagtatgcaaaattataaga 723

Query: 182 tcatattgcatgagtccatcttcacacaccggttg 217
|| ||||||||| ||||||||| ||||||||| ||
Sbjct: 724 tcgtattgcatgaatccatcttcacacaccggttg 759

<input type=checkbox name="seqID" value="34443163:genbank_est:" checked>>34443163 <a
href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq_id%2Fid_val
ue%3D%2734443163%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xs
l">Sequence Details <a
href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&ter
m=34443163">NCBI description="PH1_28_C06.g1_A002 Phosphorous-deficient
seedlings Sorghum bicolor cDNA clone PH1_28_C06_A002
5'." library=NA species="Sorghum bicolor"
source="genbank_est" version=NA type=cDNA
Length = 795

Score = 264 bits (133), Expect = 1e-67
Identities = 205/227 (90%), Gaps = 4/227 (1%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaataatgttagtggctcctatgata---gggtggaaggatttgag 58
||||||| ||| ||||||||| ||||||||| || || || ||||||||| ||
Sbjct: 570 tttttgcagctagttaaatatgttagtggctcctat-ataagtgggggaaaggatttgag 628

Query: 59 ttattgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctac 118
||||| || ||||||||| ||||||||| || || ||||||||| || |||||||||
Sbjct: 629 ttattaaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctat 688

Query: 119 cgcagattatattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgata 178
|||||
Sbjct: 689 cgcagattatattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgata 748

Query: 179 agatcatattgcatgagtcctcttcacacaccgggttgacaagggt 225
|||||
Sbjct: 749 agatcgtattgcatgaatccatcttcacacaccgggttgacaagggt 795

<input type=checkbox name="seqID" value="57812762:genbank_est:" checked>>57812762 Sequence Details NCBI description="GABR1_11_E09.g1_A002 GA- or brassinolide-treated seedlings Sorghum bicolor cDNA clone GABR1_11_E09_A002 5'." library=NA species="Sorghum bicolor" source="genbank_est" version=NA type=cDNA Length = 746

Score = 258 bits (130), Expect = 9e-66
Identities = 184/202 (91%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggctcctatgatagggtggaaggatttgagtta 61
|||||
Sbjct: 545 tttttgcagctagttaaatatgttagtggctcctatgatagtgggaaggatttgagtta 604

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121
|||
Sbjct: 605 ttaaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcaggaagctatcgc 664

Query: 122 agattatattttatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181
|||||
Sbjct: 665 agattatattttatttggcattgcctccatcagtcctacccatcagtatgcaaaatgataaga 724

Query: 182 tcatattgcatgagtcctctt 203
||
Sbjct: 725 tcgtattgcatgaatccatctt 746

<input type=checkbox name="seqID" value="35138932:genbank_est:" checked>>35138932 Sequence Details NCBI description="SCQGAM2107H03.g AM2 Saccharum officinarum cDNA clone SCQGAM2107H03 5'." library=NA species="Saccharum officinarum" source="genbank_est" version=NA type=cDNA

Length = 658

Score = 256 bits (129), Expect = 4e-65
Identities = 156/165 (94%)
Strand = Plus / Plus

Query: 69 aggcaatctctgagtatgagacttcagaaaacaatgactcggggaagctaccgcagattat 128
|||||
Sbjct: 3 aggcaatctctgagtatgaaacatcaaaaaacaatgaatcggggaagctatcgagattat 62

Query: 129 tttatattggcattgcctccatcagtcctacccatcagtatgcgagatgataagatcatatt 188
|||||
Sbjct: 63 tttatattggcattgcctccatcagtcctacccatcagtatgcaaaatgataagatcgtatt 122

Query: 189 gcatgagtgccatcttcacacaccgggttgacaagggttattgttg 233
|||||
Sbjct: 123 gcatgaatccatcttcacacaccgggttgacaagggttattgttg 167

☒ > 35278891 Sequence Details NCBI description="SCEZFL4039C11.g FL4 Saccharum officinarum cDNA clone SCEZFL4039C11 5'." library=NA species="Saccharum officinarum" source="genbank_est" version=NA type=cDNA Length = 768

Score = 232 bits (117), Expect = 5e-58
Identities = 205/233 (87%), Gaps = 1/233 (0%)
Strand = Plus / Plus

Query: 2 tttttgcagttagtagaatatgttagtggtcctatgatagggtggaaggatttgagtta 61
|||||
Sbjct: 465 tttttgcagctagttaaatatgttagtggtcctatgatagtggtggaaggatttgagtta 524

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggggaagctaccgc 121
|| ||
Sbjct: 525 ttaacaaggcaatctctgagtatgaaacatcaaaaaacaatgaatcggggaagctatcgc 584

Query: 122 agattattttatatttggcattgcctccatcagtcctacccatcagtatgcgagatgataaga 181
|||||
Sbjct: 585 agattattttatatttggcattgcttcatcagtcctacccatcagtatgcaaaatgattaga 644

Query: 182 tcatattgcatgagtgccatcttcacacaccgggttgga-caagggttattgttg 233
||
Sbjct: 645 tcggattgcatgaaatcatcttcacacaccgggttggaaccaagggttattgttg 697

☒ > [86469135](sequenceViewer?seqID=86469135&source=genbank_est) < a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq_id%2Fid_value%3D%2786469135%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details < a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=86469135">NCBI description="ZM_BFb0246E12.r ZM_BFb Zea mays cDNA 5'." library=NA species="Zea mays" source="genbank_est" version=NA type=cDNA Length = 611

Score = 226 bits (114), Expect = 3e-56
Identities = 129/134 (96%)
Strand = Plus / Plus

Query: 2 tttttgcagtttagtagaatatgtagtggtcctatgatagggtggaaggatttgagtta 61
|||||
Sbjct: 478 tttttgcagtttagtaaaatatgtagtggtcctatgatagggtggaaggatttgagtta 537

Query: 62 ttgaatgaggcaatctctgagtatgagacttcagaaaacaatgactcggaagctaccgc 121
|| |||
Sbjct: 538 ttaaataaggcaatctctgagtatgaaacttcaaaaaacaatgactcggaagctaccgc 597

Query: 122 agattattttattt 135
|||||
Sbjct: 598 agattattttattt 611

☒ > [49455184](sequenceViewer?seqID=49455184&source=genbank_est) < a href=".../GenesisDataRequest/GenesisDataRequest?QUERY=%7B%5B%28Seq_id%2Fid_value%3D%2749455184%27%29%5D%7D&DATABASE=GCGEST&LENGTH=1&VIEW=SequenceDetailView.xml">Sequence Details < a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Search&db=Nucleotide&term=49455184">NCBI description="MJR031G10 Methyl jasmonate-treated root Lambda ZIPLOX Library (MJR) Saccharum sp. cDNA clone MJR062E04 5' similar to glucose-6-phosphate dehydrogenase." library=NA species="Saccharum sp." source="genbank_est" version=NA type=cDNA Length = 376

Score = 212 bits (107), Expect = 5e-52
Identities = 143/156 (91%)
Strand = Plus / Plus

Query: 78 ctgagtatgagacttcagaaaacaatgactcggaagctaccgcagattattttatttgg 137
||| ||||| || |||
Sbjct: 18 ctgngtatgaaacatnanaaaacaatgaatcaagaagctatcgagattattttatttgg 77

Query: 138 cattgcctccatcagtcctacccatcagtatgogagatgataagatcatattgcatgagtc 197

|||||
Sbjct: 78 cattgcctccatcagtcctacccatcagtatgcaaaatgataagatcgtattgcatgaatc 137

Query: 198 catctttcacacaccggttggaagaagggttattgttg 233

|||||
Sbjct: 138 catctttcacacaccggttggaagaagggttattgttg 173

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:13 PM
Number of letters in database: 937,495,304
Number of sequences in database: 629,443

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:16 PM
Number of letters in database: 923,029,544
Number of sequences in database: 675,893

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:19 PM
Number of letters in database: 918,994,864
Number of sequences in database: 717,011

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:22 PM
Number of letters in database: 872,212,624
Number of sequences in database: 890,994

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:25 PM
Number of letters in database: 727,928,668
Number of sequences in database: 1,612,608

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:28 PM
Number of letters in database: 770,454,229
Number of sequences in database: 1,841,517

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:31 PM
Number of letters in database: 751,537,354
Number of sequences in database: 1,649,902

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:34 PM
Number of letters in database: 804,957,458
Number of sequences in database: 1,377,732

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:39 PM
Number of letters in database: 674,836,374
Number of sequences in database: 1,794,151

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:42 PM
Number of letters in database: 771,112,785
Number of sequences in database: 1,417,437

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:45 PM
Number of letters in database: 778,599,445
Number of sequences in database: 1,379,262

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:49 PM
Number of letters in database: 795,162,534
Number of sequences in database: 1,358,269

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:52 PM
Number of letters in database: 795,846,631
Number of sequences in database: 1,349,677

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:56 PM
Number of letters in database: 758,471,273
Number of sequences in database: 1,493,133

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 2:59 PM
Number of letters in database: 799,469,308
Number of sequences in database: 1,318,767

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:02 PM
Number of letters in database: 807,279,523
Number of sequences in database: 1,289,115

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:06 PM
Number of letters in database: 797,258,625
Number of sequences in database: 1,365,557

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:11 PM
Number of letters in database: 785,281,935
Number of sequences in database: 1,395,907

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:15 PM
Number of letters in database: 793,930,244
Number of sequences in database: 1,317,716

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:19 PM
Number of letters in database: 782,893,843
Number of sequences in database: 1,386,920

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:22 PM
Number of letters in database: 781,959,849
Number of sequences in database: 1,431,387

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:25 PM
Number of letters in database: 801,325,451
Number of sequences in database: 1,305,614

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:28 PM
Number of letters in database: 810,443,508
Number of sequences in database: 1,256,195

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:31 PM
Number of letters in database: 791,952,159
Number of sequences in database: 1,257,465

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:34 PM
Number of letters in database: 814,678,444
Number of sequences in database: 1,182,353

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:37 PM
Number of letters in database: 812,835,524
Number of sequences in database: 1,237,994

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:40 PM
Number of letters in database: 818,500,554
Number of sequences in database: 1,353,259

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:44 PM
Number of letters in database: 792,475,637
Number of sequences in database: 1,458,981

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:47 PM
Number of letters in database: 741,997,156
Number of sequences in database: 1,382,357

Database: Predefined collection GenBankCDNA: -source
"DDBJ_EST,DDBJ_NUC,EMBL_EST,EMBL_NUC,GENBANK_EST,GENBANK_NUC,OTHER_EST,OTHER_NUC
,PDB_EST,PDB_NUC,UNKNOWN_EST,UNKNOWN_NUC" -type "CDNA" -maxLength 250000 -chunk
Posted date: Mar 28, 2006 3:49 PM
Number of letters in database: 253,846,446
Number of sequences in database: 366,079

Lambda	K	H
1.37	0.711	1.31

Gapped

Lambda	K	H
1.37	0.711	1.31

Matrix: blastn matrix:1 -3
Gap Penalties: Existence: 5, Extension: 2
Number of Hits to DB: 2,678,570
Number of Sequences: 38492695
Number of extensions: 2678570
Number of successful extensions: 660781
Number of sequences better than 10.0: 190
Number of HSP's better than 10.0 without gapping: 187
Number of HSP's successfully gapped in prelim test: 3
Number of HSP's that attempted gapping in prelim test: 660488
Number of HSP's gapped (non-prelim): 284
length of query: 233
length of database: 23,466,767,293
effective HSP length: 22
effective length of query: 211
effective length of database: 22,619,928,003
effective search space: 4772804808633
effective search space used: 4772804808633
T: 0
A: 0
X1: 6 (11.9 bits)
X2: 15 (29.7 bits)
S1: 12 (24.3 bits)
S2: 20 (40.1 bits)

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